Meeting Minutes
E-Waste Stakeholder Workgroup
April 19, 2006

The Electronic Waste (E-Waste) Stakeholder Workgroup held their second meeting on April 19, 2006, at the Missouri Department of Natural Resources (department) Conference Center in Jefferson City. Fifty-five people attended the meeting, either in-person or by telephone conference call, representing manufacturers, vendors, recyclers, environmental groups, waste haulers and processors, several Missouri state agencies, federal agencies, local governments, and other interested parties. A copy of the agenda and attendance list is attached.

I. **Welcome and February 24 Meeting Review:**

Mr. Bob Geller, Director of the department's Hazardous Waste Program, opened the meeting and welcomed the stakeholders. He asked each stakeholder to introduce himself or herself. He described the goal of the stakeholder workgroup and stated that the all the information, including the minutes from the last meeting, is posted on the stakeholder Web site.

Mr. Geller introduced Mr. Mike Menneke, also representing the department's Hazardous Waste Program. Mr. Menneke discussed the logistics of today's meeting. Ms. Heidi Rice, representing the department's Hazardous Waste Program, told the conference call participants that all presentations for today's meeting are loaded on the stakeholder Web site, on the "Next Meeting" page, so they could follow along with the speakers.

A. **Universal Waste Battery Recycling Update**

Mr. Menneke introduced Ms. Candace Bias, representing the department's Hazardous Waste Program. Ms. Bias discussed her findings on a question that was brought up at the previous meeting. Battery collection containers do follow the current regulations. The batteries must be sealed in the plastic bag before depositing in the container, to prevent fire. When exposed battery terminals touch, they generate heat, possibly leading to a fire.

B. **Ban Discussion**

Mr. Menneke introduced Ms. Laura Yates and Mr. David Beal, both representing the E-scrap Framing Committee. Both discussed the *Electronic Waste Landfill Disposal Ban* information sheet that was handed out to the meeting attendees. A copy of the information sheet is attached.

II. **CRT Recycling**

Mr. Menneke introduced Mr. Lou Magdits, representing The Doe Run Company. Mr. Magdits gave a presentation describing CRT glass recycling options and how The Doe Run Co. uses the silica from glass to displace any energy and environmental impacts associated with mining naturally occurring silica. A copy of the presentation is attached.

III. **E-cycle St. Louis**

Mr. Menneke introduced Ms. Laura Yates, representing the St. Louis Regional Partnership for Electronics. Ms. Yates gave a presentation describing the process that region went through to promote existing reuse and recycling outlets and establish permanent drop-off locations. A copy of the presentation is attached.

IV.   U.S. EPA and E-scrap
Mr. Menneke introduced Mr. Steve Fishman, representing U.S. EPA, Region 7. Mr. Fishman gave a presentation describing federal and state legislative and regulatory updates. A copy of the presentation is attached.

V.   Brominated Flame Retardants
Mr. Menneke introduced Mr. Carl Orazio, representing U.S. Geological Survey. Mr. Orazio gave a presentation describing the various brominated flame-retardants, how they are incorporated into plastic, and the potential sources of toxic chemical contaminants in electronic waste. A copy of the presentation is attached.

VI.   Small Group Discussions
During the afternoon session, the stakeholders divided into three subgroups to discuss issues concerning e-waste collection, processing and disposition. Each group discussed rules and regulations, how can or should DNR provide oversight, and best management practices in relation to each category.

A.   Collection (Facilitator: Alice Geller)
<u>Releases</u>
- Clean up standards including information on best standards, where to get assistance, educational effort and addressing liability
- Protection – barriers, to protect the environment
- Protection for workers

<u>Speculative accumulation</u>
- Collectors bonded to provide for funds to take care of accumulations
- Currently is federal law that you cannot speculatively accumulate
- Provide donor a Certificate of Destruction that the PC was appropriately handled
- Have mandatory registration of collectors so they can be checked
- Instead of registration, require an EPA or DNR generator ID #

<u>Proper closure</u>
- Require collectors to be bonded (may harm smaller collectors as too much of an expense)
- Use a certification process (more specific with more requirements than just registering)
- Provide guidance on proper closure
- Have an ARF (Advance Recycling Fee) and use some of those funds to insure proper closure

<u>Certification</u> (Group felt some kind of registration/certification needed)
- Registration or notification would work also, not as many requirements as certification or licensing
- Marketing tool for collectors if voluntary
- Need criteria to evaluate a collector (attached is the list used by the Parkway School District as an extra piece of information)

Other issues discussed

<u>Funding</u>

- ARF
  - ➢ How do you address Internet sales…would this be a way around ARFs?
  - ➢ ARF is beginning of product life fee, and collection fee is an end of life fee
  - Need to look at other state models, what works? Are Missouri's fees (i.e. scrap tires) effective?
  - Manufacturers provide or consumers pay for?
  - What are the market drivers…if have a fee, want to place it where it keeps the product moving
  - Buy a certificate at time of purchase, like an extended warranty, for e-product disposal or recycling.

Rural issues
  - May need mobile collection centers…smaller towns may not have enough volume to sustain collection/recycling
  - Develop a statewide procurement contract for e-vendors to recycle/dispose
  - Have collection centers or pick up
  - Work with Rural Electric Coops
  - Have collections on regular schedule – like the fist week of May each year.

Other issues
  - CRTs are a larger part of the problem
  - Timing must be considered…CRT's will peak and then decline, and other technology will emerge
  - Need to develop recycling market to handle product
  - We need to define what we want to address as e-scrap, so we can design the program to address

B.   Processing (Facilitator: Heidi Rice)

Certification (either voluntary or mandatory)

The group discussion began with what kind of document a processing company must have approved by DNR before they could operate. These documents ranged from a permit to an operational license, tiered certification and management plan. The group consensus was the management plan. The plan would be a hybrid of the current RCRA hazardous waste permit and Resource Recovery certification. The information contained in the management plan would depend on the materials the company would handle and how those materials would be processed.

The group also decided that they wanted some type of DNR audit or inspection of the companies to make sure they are following their management plan. The group also wanted a DNR inspection and closure certification when a processing company is no longer in business.

Releases

The group wanted the processing companies to be required to meet minimum requirements, including the following subjects:
  - storage (impervious surface, protection from weather, fugitive emissions, spill provisions)
  - fire protection (driven by the requirements of the local fire district)
  - emergency preparedness plan
  - material identification

- non-conforming material protection
- container identification when shipped to the company
- some sort of protection from being classified as a large quantity generator if someone ships the wrong materials to them

Speculative Accumulation
The group wanted the processing companies to be required to meet minimum requirements, including a one year time limit on storage, unless otherwise specified in the company's management plan. This would depend on the material, whether it has a negative or positive value.

Proper Closure
The group wanted the processing companies to be required to meet minimum requirements, including the following subjects:
- decontamination
- financial assurance (dependent on the business size)
- a third party assessment of the companies plan

The group also discussed funding on a side note. There was discussion of a "point of sale" fee that would be assessed when the product is most valuable. Consumers want that computer, so they would be willing to pay a little extra fee to get it. When consumers want to get rid of the computer, it has no value to them, so they would be less willing to pay a fee. The processing companies would be able to dip into the money on a percent basis.

C.   **Disposition (Facilitator: Candace Bias)**
Releases
- Dusting issues
- Air emissions (Mercury, VOCs, etc)
- Metals (lead, cadmium, etc)
- Unknowns (such as brominated flame retardants)
- BMP
    - Perform work indoors
    - Worker protection standards (involve OSHA?)
    - Through put accounting so material not obviously 'lost' in the system
    - Time limitations

Speculative Accumulation
- 1 year time limit like HW Universal Rule
- 3 month time limit because business needs turn around to be successful
- Proof of end market, not just collecting useless parts
- Specific business plan (tailored to each waste recycled, longer time limits for harder to recycle items, shorter time limits for things such as metals)
- Accumulating 'whole' electronics instead of disassembled units
- Through put facility (i.e. material that comes in regularly goes out)
- Recycling valuable parts, storing less valuable parts
- Why regulate?
- BMP
    - Regular inspections by DNR
    - Tracking of inventory using barcodes, scanners, etc
    - Companies need volume to make money

> ➢ Record keeping used to invoice customers also used to track through put of facility
> ➢ Advanced recycling fees

Proper Closure
- Financial Assurance Instrument (bonding, insurance, etc)
- Memo of Understanding or contract among members of the industry that guarantees stockpiled electronics will be become the responsibility of the group in the event that one member goes out of business. Would be an alternative to costly FAI.

Certification
- Certification of electronic recycling makes hazardous waste generators feel more comfortable
- Certification of electronic recycling makes sure final disposition is in US vs. foreign countries
- Certification of businesses should include being registered
- Certification of businesses could be similar to Resource Recovery Certification

VII. Report Back
The facilitator of each subgroup presented their groups strategic points the larger stakeholder group. It was reiterated that these were just ideas, nothing was final.

VIII. Next Steps and Closing
Ms. Alice Geller asked the stakeholders if they wanted the E-scrap Framing Committee to continue to direct discussions for the group, or if they wanted to form a separate steering committee. The group decided to keep the E-scrap Framing Committee and add members. The E-scrap Framing Committee set the date for their next meeting. Several discussion topics for the next stakeholder workgroup meeting were also suggested, including:
1. Define e-waste.
2. What are the current fees that DNR collects? What works and how are they collected?
3. More information on Universal Waste
4. Lessons learned from other states.

Mr. Bob Geller, Director of the Hazardous Waste Program, thanked the stakeholders for taking the time to meet and discuss e-waste.

A. Put together the meeting minutes – subgroup facilitators (Alice Geller will compile.)
B. Finalize and post the meeting minutes on the stakeholder Web site – Heidi Rice.
C. Next Meeting: June 14, 2006. A call-in number will be provided for participants unable to travel to Jefferson City.